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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KRECK, JOHN J	
ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/003,917	Applicant(s) ZUPANICK ET AL.
	Examiner John Kreck	Art Unit 3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-96* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-96* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 8, 9, 31, 33, 41-44, 66, 67, 71 and 76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 calls for "reaching a maximum gas production rate within four months of a start". This is vague and indefinite because the maximum rate is not specifically defined in relation with the time period. Since one could, theoretically, always increase the production rate, it is impossible to ascertain the scope of the claim.

Claim 9 calls for "a bulk of recovered methane within six months". Note that a "bulk" is not a standard unit of measurement; and insofar as a "bulk" is used by applicant to define a "majority", it is vague because the claim does not specifically set forth limits which define recovered methane.

Claims 31 and 33 are indefinite because they include similar limitations.

Claim 41 is unclear regarding "further comprising means for lowering...". It is unclear whether this is in addition to the previously mentioned means for lowering.

Claims 42-44, 66, 67, and 76 are indefinite because they include similar limitations.

Claim 71 is unclear regarding "non-disputed". Is this meant to be "non-disjointed"?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9, 11-18, 20, 21, 24-37 79, 82, 83, 87, 90, 91, 95, and 96 are rejected under 35 U.S.C. 102(b) as being anticipated by Puri, et al. (U.S. Patent number 4,756,367).

The Puri reference teaches a method for surface production of gas from a subterranean zone, comprising forming a drainage pattern comprising a plurality of cooperating bores and having a coverage area; lowering water pressure without significant subsurface drainage (col. 4, lines 7-35) by producing water through the cooperating bores; and producing gas with at least some of the water as called for in claim 1.

The Puri reference also teaches the lowering water pressure throughout the coverage area with no subsurface drainage as called for in claim 2.

The Puri reference also teaches the lowering water pressure throughout the coverage area with while an aquifer continues to supply water as called for in claim 3.

The Puri reference also teaches substantially uniformly dropping water pressure as called for in claim 4.

The Puri reference also teaches the producing gas in 2 phase flow as called for in claim 5.

The Puri reference also teaches the methane as called for in claim 6.

The Puri reference also teaches the virgin reservoir and self sustaining flow as called for in claim 7.

The Puri reference also teaches the maximum production within 4 months (see days 900-1080 in figure 6) as called for in claim 8.

The Puri reference also teaches the bulk of the methane within 6 months as called for in claim 9.

The Puri reference also teaches the polygonal area as called for in claim 11.

The Puri reference also teaches the substantially square area as called for in claim 12.

The Puri reference also teaches the non disjointed area as called for in claim 13.

The Puri reference also teaches the area comprises a substantially ellipsoidal area (note the term "comprises" is open ended; thus the area could be construed to comprise both an ellipsoidal area, and an area on the outside of the ellipse, together forming the square) as called for in claim 14.

The Puri reference also teaches the symmetrical area as called for in claim 15.

The Puri reference also teaches the shape operable to be nested as called for in 16.

The Puri reference also teaches the coverage extends to any point between any two cooperating bores as called for in claim 17.

The Puri reference also teaches the coal bed as called for in claim 18.

With regards to claim 20; the pressure differential will inherently be less than 10 psi; for example, before production.

The Puri reference also teaches the producing water to a cavity (the well bores comprise cavities) and lifting to the surface as called for in claim 21.

The Puri reference also teaches the parallel bores as called for in claim 24.

The Puri reference also teaches the area extends to a periphery of the bores as called for in claim 25.

Regarding independent claim 26:

The Puri reference teaches a method for surface production of gas from a subterranean zone, comprising forming a drainage pattern comprising a plurality of cooperating bores and having a coverage area; substantially uniformly dropping water pressure without significant subsurface drainage (col. 4, lines 7-35) by producing water through the cooperating bores; and producing gas in two phase flow with water as called for in claim 26.

With regards to claim 27; the Puri reference teaches substantially removing all water eventually; the dropping water pressure at a rate operable to cause released gas to propel water removal is inherent at some stage of the process.

The Puri reference also teaches the lowering water pressure throughout the coverage area with while an aquifer continues to supply water as called for in claim 28.

The Puri reference also teaches the methane as called for in claim 29.

The Puri reference also teaches the virgin reservoir and self sustaining flow as called for in claim 30.

The Puri reference also teaches the maximum production within 4 months (see days 900-1080 in figure 6) as called for in claim 31.

The Puri reference also teaches the bulk of the methane within 6 months as called for in claim 32.

The Puri reference also teaches the non disjointed area as called for in claim 33.

The Puri reference also teaches the symmetrical area as called for in claim 34.

The Puri reference also teaches the coverage extends to any point between any two cooperating bores as called for in claim 35.

With regards to claim 36; the pressure differential will inherently be less than 10 psi; for example, before production.

The Puri reference also teaches the producing water to a cavity (the well bores comprise cavities) and lifting to the surface as called for in claim 37.

Regarding independent claim 79:

The Puri reference teaches a method for producing coal seam gas from a coal seam comprising forming a drainage pattern in a coal seam comprising a plurality of auxiliary drainage bores arranged in substantially equal and parallel spacing on apposite sides of an axis (for example, and axis intersecting well # 3 in figure 3) and simultaneously producing water and gas as called for in claim 79.

The Puri reference also teaches the area having relatively equal length to width as called for in claim 82.

The Puri reference also teaches the horizontal pattern (see figure 3, and note the claim does not call for horizontal wells) as called for in claim 83.

Regarding independent claim 87:

The Puri reference teaches a method for producing formation gas from a gas bearing formation comprising forming a drainage pattern in a fromation comprising a plurality of auxiliary drainage bores arranged in substantially equal and parallel spacing on apposite sides of an axis (for example, and axis intersecting well # 3 in figure 3) and simultaneously producing water and gas as called for in claim 87.

The Puri reference also teaches the area having relatively equal length to width as called for in claim 90.

The Puri reference also teaches the horizontal pattern (see figure 3, and note the claim does not call for horizontal wells) as called for in claim 91.

The Puri reference also teaches the quadrilateral are as called for in claim 95.

The Puri reference also teaches the uniform coverage as called for in claim 96.

3. Claims 40-59, and 63-76 are rejected under 35 U.S.C. 102(b) as being anticipated by Carroll (U.S. Patent number 5,462,116).

Carroll teaches a system for surface production of gas comprising means for forming a drainage pattern (col. 4, line 37 a tri-cone bit anticipates "means for forming"; the claim does not positively recite the pattern); means for lowering water pressure

(including pump 15); and means for producing gas (including 18, 14, and 22) as called for in claim 40.

Carroll also teaches the means for lowering (col. 4, lines 61-63) as called for in claim 41.

Carroll also teaches the means for lowering (col. 4, lines 61-63) as called for in claim 42.

Carroll also teaches the means for substantially dropping (col. 4, lines 61-63) as called for in claim 43.

Carroll also teaches the means for producing gas (including 18, 14, and 22) as called for in claim 44.

Carroll also teaches the methane as called for in claim 45.

Regarding claim 46; it is apparent that the means for forming of Carroll is capable of forming a pattern in virgin reservoir conditions. The "producing" limitation is given no weight as apparatus.

Regarding claims 47-59; the functional limitations are given no weight as apparatus; it is apparent that the system of Carroll is capable to perform the desired functions.

Carroll also teaches the means for producing water to a cavity and means for lifting as called for in claim 60.

Regarding claims 63 and 64; it is apparent that the system of Carroll is capable of creating parallel bores and an area extending to a periphery of the drainage pattern.

Regarding independent claim 65:

Carroll teaches a system for surface production of gas comprising means for forming a drainage pattern (col. 4, line 37 a tri-cone bit anticipates "means for forming"; the claim does not positively recite the pattern); means for substantially dropping water pressure (including pump 15); and means for producing gas (including 18, 14, and 22) in two phase flow with water as called for in claim 65.

Carroll also teaches the means for dropping (col. 4, lines 61-63) as called for in claim 66; the rate is considered to be functional language, and is given no weight as apparatus.

Carroll also teaches the means for lowering (col. 4, lines 61-63) as called for in claim 67.

Carroll also teaches the methane as called for in claim 68.

Regarding claim 69; it is apparent that the means for forming of Carroll is capable of forming a pattern in virgin reservoir conditions. The "producing" limitation is given no weight as apparatus.

Regarding claims 70-75; the functional limitations are given no weight as apparatus; it is apparent that the system of Carroll is capable to perform the desired functions.

Carroll also teaches the means for producing water to a cavity and means for lifting as called for in claim 76.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 19, 86, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puri, et al. (U.S. Patent number 4,756,367).

The Puri reference fails to explicitly disclose the 50% of the coverage area spaced from a bore by a distance of greater than 200 feet. It is well known in the art of gas wells that the spacing of wells is largely a matter of engineering design; based on formation characteristics. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Puri method to have the 50% of the coverage area spaced from a bore by a distance of greater than 200 feet as called for in claim 19, based on formation characteristics.

The Puri reference fails to explicitly disclose drainage bores progressively shorter as they progress from a surface well bore.. It is well known in the art that the depth of wells is largely a matter of engineering design; based on formation characteristics, such as dip. For example, a well drilled updip will be shorter. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Puri method to have the drainage bores progressively shorter as they progress from a surface well bore as called for in claims 86 and 94, based on formation characteristics.

5. Claims 22, 23, 38, 39, 84, and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puri, et al. in view of Nackerud (U.S. Patent number 4,594,121).

Note that although the wellbore of Puri can be broadly interpreted as a cavity, the Puri reference fails to explicitly disclose any dimensions. Nackerud teaches a method of underreaming such holes to improve flow rates by increasing surface area. It is apparent that the dimensions are largely a matter of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Puri method to have included a forming an enlarged diameter cavity as called for in claim 84, and as taught by Nackerud, and having a volume greater than 1000 cubic feet as called for in claims 22 and 38, or an area greater than 50 square feet as called for in claims 23 and 39, or a diameter of approximately 8 feet as called for in claim 85 based on formation characteristics.

6. Claims 61, 62, 77, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll in view of Nackerud (U.S. Patent number 4,594,121).

Note that although the wellbore of Carroll can be broadly interpreted as a cavity, the Carroll reference fails to explicitly disclose any dimensions. Nackerud teaches a method of underreaming such holes to improve flow rates by increasing surface area. It is apparent that the dimensions are largely a matter of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Carroll system to have included an enlarged diameter cavity as taught by Nackerud, and having a volume greater than 1000 cubic feet as called for in claims 61

and 77, or an area greater than 50 square feet as called for in claims 62 and 78 based on formation characteristics.

7. Claims 79, 80, 81, 87, 88, and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puri, et al. in view of Murray, et al. (U.S. Patent number 5,785,133).

The Puri reference teaches forming a drainage pattern and simultaneously producing water and coal seam gas. The Puri reference teaches vertical bores.

The Murray reference teaches a drainage pattern which includes a central bore and auxiliary bores arranged in substantially equal parallel spacing on opposite sides of the axis of the pattern. It is apparent that the Murray pattern provides for uniform coverage of a subterranean area from a single surface well.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a pattern as taught by Murray, including auxiliary bores arranged in substantially equal parallel spacing on opposite sides of the axis of the pattern as called for in claim 79, in order to achieve uniform coverage of a subterranean area from a single surface well.

With regards to claims 80 and 81; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have include a central bore from which the auxiliary bores extend as called for in claim 80; and to have included the auxiliary bores generally symmetrically arranged as called for in claim 81, in order to achieve uniform coverage of a subterranean area from a single surface well.

Regarding independent claim 87:

The Puri reference teaches forming a drainage pattern and simultaneously producing water and gas. The Puri reference teaches vertical bores.

The Murray reference teaches a drainage pattern which includes a central bore and auxiliary bores arranged in substantially equal parallel spacing on opposite sides of the axis of the pattern. It is apparent that the Murray pattern provides for uniform coverage of a subterranean area from a single surface well.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a pattern as taught by Murray, including auxiliary bores arranged in substantially equal parallel spacing on opposite sides of the axis of the pattern as called for in claim 87, in order to achieve uniform coverage of a subterranean area from a single surface well.

With regards to claims 88 and 89; it would have been further obvious to one of ordinary skill in the art at the time of the invention to have include a central bore from which the auxiliary bores extend as called for in claim 88; and to have included the auxiliary bores generally symmetrically arranged as called for in claim 89, in order to achieve uniform coverage of a subterranean area from a single surface well.

8. Claims 92 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puri, et al. and Murray, et al. as applied to claim 87 above, and further in view of Dickinson, III, et al. (U.S. Patent number 4,527,639).

The Puri and Murray references fail to teach a cavity. The Dickinson reference teaches a similar method, which includes forming an enlarged diameter cavity in order to facilitate drilling of laterals off of a main bore.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Puri method to have included forming an enlarged diameter cavity as called for in claim 92, in order to facilitate drilling of laterals off of a main bore.

With regards to claim 93; it is apparent that the cavity dimensions are largely a matter of engineering design. It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Puri method to have included a cavity having a diameter of approximately 8 feet as called for in claim 93, based on formation characteristics or drilling conditions.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-39 and 79-96 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,280,000. Although the conflicting claims are not identical, they are not

patentably distinct from each other because the application claims are somewhat broader. Note that claim 1 of the application calls for "a plurality of cooperating bores"; this is generally equivalent to the first and second well bores and the horizontal bore of the patent claim 1. Claim 1 of the application also calls for lowering water pressure; this is generally equivalent to "draining said water" in claim 3 in the patent. Allowance of claim 1 in the application would result in an undue extension of the right to exclude granted by (at least) claim 3 of the patent.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Puri, et al. (U.S. Patent number 4,883,122); Canfield (U.S. Patent number 3,887,008); El-Saie (U.S. Patent number 4,836,611); and Masszi (U.S. Patent number 4,305,464) teach similar methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3597 for regular communications and (703)305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

JJK
May 15, 2002